

AUSTRALIAN AND MELANESIAN ANTS OF THE GENUS EURHOPALOTHRIX BROWN AND KEMPF—NOTES AND NEW SPECIES (HYMENOPTERA: FORMICIDAE)

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Abstract

Two species are described as new: *E. hoplites* (Papua New Guinea) and *E. insidiatrix* (Vanua Levu, Fiji Islands). Both are illustrated with scanning electron micrographs, as are *E. szentivanyi* Taylor and *E. emeryi* (Forel). Notes are given on distribution and variation of several previously described species.

Introduction

The myrmicine ant genus *Eurhopalothrix* (tribe Basicerotini) was established and monographed by Brown and Kempf (1960). Subsequently new species were described by Kempf (1962, 1967), Snelling (1968) and Taylor (1968, 1970). Currently 23 species are named, 12 of them Indo-Australian and 11 Neotropical. My 1968 paper and its 1970 supplement reviewed those species then known from the Indo-Australian area. In this further supplement I describe two new species, *E. hoplites* from Papua New Guinea and *E. insidiatrix* from Fiji, and present notes on various previously described species, all of them exclusively Australian or Melanesian in distribution, except the widespread S.E. Asia-based *E. procera* (Emery). Apart from *E. procera* only one species, *E. philippina* Brown and Kempf, has so far been reported from the Oriental Region. In recent years, however, a number of undescribed species from West Malaysia and Borneo have accumulated in the Australian National Insect Collection (ANIC), CSIRO, Canberra, and the British Museum (Natural History), London [BM(NH)]. These will be reviewed elsewhere.

Workers of the new species, and of the New Guinean *E. szentivanyi* Taylor and the Fijian *E. emeryi* (Forel), are illustrated with a standard set of micrographs, comprising a frontal view of the head, with dorsal and lateral views of the mesosoma and waist nodes. I prepared these using a J.E.O.L. JSM U3 scanning electron microscope. The illustrated specimens, which include the holotypes of both new species, have been gold coated for microscopy. Each has been mounted with an uncoated specimen selected to match its coloration before coating.

All measurements are given in millimetres. Abbreviations and conventions for measurements and indices follow those of Taylor (1968). Abbreviations for some institutions are indicated above; others include: GM = Museum d'Histoire Naturelle, Geneva; HNM = Hungarian National Museum, Budapest; MCZ = Museum of Comparative Zoology, Harvard University, Cambridge; NZAC = New Zealand Arthropod Collection, Entomology Division, DSIR, Auckland; USNM = United States National Museum, Smithsonian Institution, Washington.

Measures of distance and elevation, whether metric or imperial, are given as on the original data labels.

The deposition of specimens in the ANIC by Dr P. J. M. Greenslade (PJM), Drs S. and J. Peck (S&JP), Dr P. M. Room (PMR), Dr P. S. Ward (PSW) and Rev. B. B. Lowery (BBL) is gratefully acknowledged. These collectors are indicated below by their initials, as shown above, while JEF = J. E. Feehan, GK = G. Kuschel, PNL = P. N. Lawrence, GBM = G. B. Monteith and RWT = R. W. Taylor.

***Eurhopalothrix brevicornis* (Emery)**

New records.—PAPUA NEW GUINEA: SEPIK PROVINCE: Passam, near Wewak, ca 270 m; Yawasora, near Wewak, ca 50 m; Hayfield, near Maprik, ca 150 m. MOROBE PROVINCE: near Lae, ca 50 m; Bulolo, ca 2300 ft, 17.xii.1972, BBL. CENTRAL PROVINCE: 8 km S of Kokoda, ca 800 m; Popondetta, ii.v.1972, PMR. (All ANIC, unless stated otherwise all rain forest berlesates, collected between 1.vi.1972 and 5.vii.1972 by RWT.) SOLOMON ISLANDS: SANTA ISABEL: NE of Tatamba Raja, litter, rain forest, 30.ix.1965, PNL-Brit. Roy. Soc. Expedition [ANIC, BM(NH)]; 1,000 Ships Bay, opposite Lilihinia Island, litter, rain forest, 20.ix.1965, PNL-Brit. Roy. Soc. Expedition [BM(NH)]. NGGELA: Soso, 2.xii.1965, PJMG (acc. 20995) (ANIC). GUADALCANAL: Mt Austen, 24.viii.1965, PJMG (acc. 19285) (ANIC).

Known distribution

Rain forest habitats; mainland Papua New Guinea at least to 700 m elevation; New Britain, and the Solomon Islands of Vella Lavella, Santa Isabel, Nggela and Guadalcanal.

Variation

I have seen 36 workers and two dealate queens from the Solomon Islands, and 23 workers from mainland Papua New Guinea. The distribution of large specialised hairs on the head and mesosoma in New Guinea specimens follows that described by Brown and Kempf (1960, p. 216, fig. 45). In undamaged specimens there are four hairs in each of the two posterior transverse rows on the head and one pair straddle the mesonotum. All Solomon Islands specimens lack the lateral hairs of the cephalic series in question, and none have erect hairs on the mesosoma. The specialised pilosity is often lost in *Eurhopalothrix* specimens, but no New Guinea example completely lacks all six relevant hairs, and the other cephalic hairs on the Solomon Islands specimens are nearly always fully intact. These differences, if consistent, could indicate that specimens recorded from the Solomon Islands as *E. brevicornis* in fact represent a separate sibling species.

***Eurhopalothrix australis* Brown and Kempf**

New records.—AUSTRALIA: QUEENSLAND: Alexandra Bay, 16°12'S, 145°26'E, <50 m; Thornton Range, 16°14'S, 145°26'E, ca 100 m; Black Mountain Rd, N of Kuranda, 16°45'S, 145°35'E, ca 430 m; Mt Tiptree, 17°03'S, 145°38'E, ca 730 m; Upper Mulgrave River, 17°15'S, 145°46'E, ca 75 m; 4 km E of Lake Barrine, 17°16'S, 145°41'E, ca 700 m; Lake Eacham National Park, 17°18'S, 145°37'E, ca 760 m; Crater National Park, 17°26'S, 145°31'E, ca 1000 m; ca 12 km SE of Millaa Millaa, ca 600 m; 12 km S of Ravenshoe, 17°43'S, 145°30'E, ca 1000 m; 20 km S of Ravenshoe, 17°49'S, 145°32'E, ca 800 m; Crawford's Lookout, ca 320 m; Lacey's Creek, 17°52'S, 146°04'E, ca 40 m; McNamee Creek, 17°40'S, 145°48'E, ca 400 m (all preceding records from rain forest berlesates, collected between 19.vi.1971 and 11.vii.1971 by RWT and JEF); near Kenilworth, 26°36'S, 152°43'E, berlesate, rain forest, ca 150 m, 17.iii.1973, RWT; Canungra Creek, 4 mi. S of Canungra, berlesate, rain forest, 14.iii.1971, GBM. (All ANIC.)

Known distribution

Rain forest habitats in eastern Australia, on or east of the main divide, from Alexandra Bay, north Queensland (lat. 16°12'S) to Dorrigo National Park, northern New South Wales (lat. 30°22'S). *E. australis* occupies a wide elevational range in the "base of peninsula" rain forest area of north Queensland, from which most of the above new records originate.

***Eurhopalothrix caledonica* Brown and Kempf**

New records.—NEW CALEDONIA: Col'd' Amieu, N of La Foa, litter berlesate, rain forest, ca 500 m, 7.viii.1978, S&JP [ANIC, BM(NH), MCZ]; Col de Mouirange, 30 km E of Nouméa, litter berlesate, rain forest near pond, ca 300 m, 11.viii.1978, S&JP (ANIC).

Known distribution

Known only from New Caledonia.

***Eurhopalothrix punctata* (Szabó)**

New record.—PAPUA NEW GUINEA: CENTRAL PROVINCE: Kauai River, Manari, 9°11'S, 147°37'E, under log, rain forest, ca 700 m, 13.viii.1976, PSW (ANIC).

Known distribution

Mainland Papua New Guinea; previously reported localities include Madang, Stephansort (= Bogadjim, 5°26'S, 145°45'E), Hansemann Mountains (?= Mt Hansemann, 5°10'S, 145°45'E), and lower Busu River near Lae.

Note

The queen from Kunai Creek near Wau discussed as *Eurhopalothrix* sp. in my 1968 paper (p. 339) seems unlikely to be *E. punctata* as suggested there.

Eurhopalothrix biroi (Szabó)

New records.—PAPUA NEW GUINEA: MOROBE PROVINCE: near Lae, ca 50 m; "Timber Track", ca 16 km NW of Lae, ca 220 m; Bulolo, berlesates, rain forest, ca 2300 ft, 14, 17.xii.1967, BBL. CENTRAL PROVINCE: 8 km S of Kokoda, ca 800 m; near Kokoda, ca 500 m; Kokoda, 22.vii.1973, PMR; Popondetta, vi.1972-vii.1973, PMR; Tagao Rd, 26.vii.1973, PMR. (All ANIC, unless stated otherwise all rain forest berlesates, collected between 1.vi.1972 and 17.vi.1972 by RWT.)

Known distribution, variation

Apparently widespread in northern mainland New Guinea; previously reported from localities near Madang or Lae, and on the Huon Peninsula.

The available specimens frequently have worn vestiture, as is usual in basicerotine ants. However the material from Central Province listed above appears consistently to have the hairs of the ground pilosity on the pronotum, petiolar dorsum and gaster much finer and less inflated than those of the material from Morobe Province. Four syntypes from the Hanseman Mts (HNH, kindly loaned by Dr J. Papp) match the Morobe Province specimens in these details.

Eurhopalothrix hoplites sp. n. (Figs 1-3)

Types.—PAPUA NEW GUINEA: SEPIK PROVINCE: Passam, near Wewak, berlesate, rain forest, ca 270 m, 5.vii.1972, RWT, *paratype* worker (ANIC). CENTRAL PROVINCE: Lejo Rd. near Popondetta (TYPE-LOCALITY), 9.vii.1973, PMR, *holotype* worker (ANIC, Type No. 7521).

Worker

Dimensions (holotype cited first).—TL ca 4.8, 4.5; HL 1.06, 1.05; HW 1.08, 1.01; CI 102, 96; ML 0.23, 0.22; MI 22, 21; SL 0.63, 0.62; SI 58, 57; maximum diameter of eye 0.08, 0.09; PW 0.72, 0.69; WL 1.17, 1.18; petiolar node width 0.36, 0.34; postpetiole width 0.69, 0.64; gastral width 0.92, 0.89.

Description.—General features as in Figs 1-3. Outer borders of mandibles feebly concave, basal tooth unspecialised. Front of head almost entirely and evenly convex, except for a slight transverse impression across the median fronto-clypeal region. Mesosomal profile broken only by slight indentations between its pronotal, mesonotal and propodeal sections. Promesonotal suture represented dorsally by a slight depression which does not break the sculpture; metanotal groove slightly more distinct. Ventral carinae of petiole not serrated. Postpetiole almost lacking a median longitudinal depression.

Head, mandibles and scapes feebly shining, with a dense, largely effaced fine punctate-rugosity, more distinct on mandibles, clypeus and scapes. Mandibular teeth minutely transversely arched-striate. Antennal fossae smooth and shining, with traces of transverse carinae posteriorly. Dorsa of mesosoma, petiole and postpetiole coarsely punctate-rugose; sides of mesosoma similar, except the mes- and metepisternites, which are smooth and shining, with a few ventral punctures. First gastral tergite generally smooth and shining, with scattered small punctures and narrow anterior and lateral strips of dense, fine puncturation. The more distal tergites similarly densely punctate. First gastral sternite more coarsely punctate, with a smooth, shining median disc. Legs almost entirely finely punctate-rugose, the sculpture partly effaced on the coxae.

Specialised erect hairs lacking except for a few on leading edges of scapes, and on gastral apex; a few on first gastral sternite, none on its tergite. Ground pilosity of dense, short, yellowish-white hairs associated everywhere with the punctate-rugose sculpturing, lacking where it is absent, except on gastral dorsum, where hairs are minute. Dense fine pubescence limited to antennal funiculi.

Rich deep mahogany-brown, appearing black to the naked eye; antennae and legs a shade lighter.

Notes

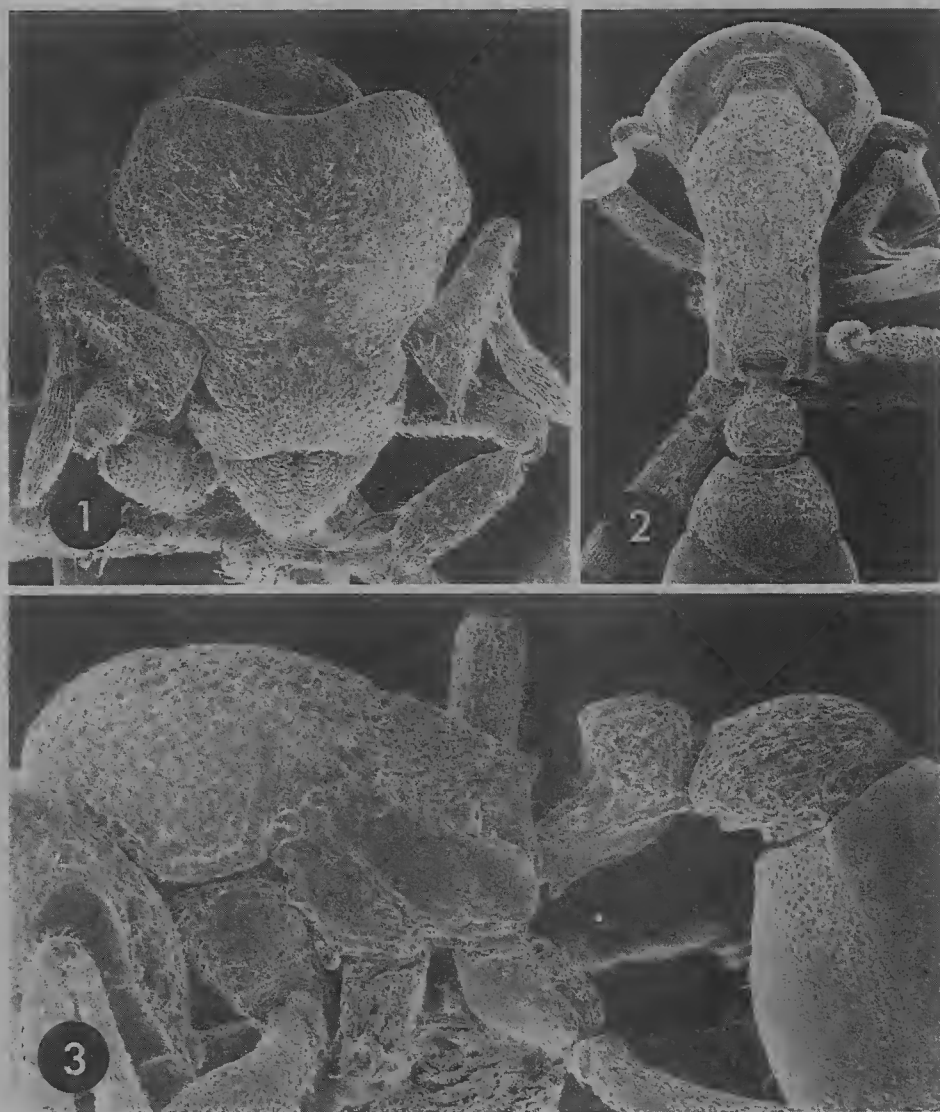
This species runs to couplet 12 of my 1968 key to the Indo-Australian Basicerotini. *E. procera* and *E. greensladei* Taylor also terminate there. Both are abundantly distinct from *E. hoplites*. They have relatively broad heads (CI 106-110 and 110-114 respectively), less evenly convex mesosomal dorsa, viewed laterally, much weaker postcephalic sculpture, and a pair of specialised erect hairs each on the verticociput and pronotum at least.

Eurhopalothrix greensladei Taylor

New records.—SOLOMON ISLANDS: GUADALCANAL: Mt Austen, 24.viii.1965, ii.1966, iii.1966, PJMG (accs 19284, 21210, 21316, workers); Kukum, 1962, PJMG (acc. 21565, dealate queen). (All ANIC.)

Known distribution

Known only from localities near Honiara, Guadalcanal.



FIGS 1-3—*Eurhopalothrix hoplites* sp. n., holotype worker, standard views. HW 1.08 mm, PW 0.72 mm, WL 1.17 mm.

***Eurhopalothrix isabellae* (Mann)**

New records.—SOLOMON ISLANDS: WAGINA: 25.v.1966, 3.vii.1966, PJMG (accs 23076, 23201). GUADALCANAL: Mt Austen, 24.viii.1965, PJMG (acc. 19284); Mt Gallego, litter berlesate, rain forest, ca 2500 ft, 12.vii.1965, PJMG-Brit. Roy. Soc. Expedition. [ANIC, BM(NH).]

Known distribution, variation

Solomon Islands; previously reported from Vella Lavella and the type-locality, Santa Isabel. I discussed variation between specimens from these islands in my 1968 paper (p. 344). The Wagina specimens almost exactly conform to my description of the holotype, while the Guadalcanal specimens provide a further variant morph, with the following features:

1. Mandibles, depth of occipital emargination, proportions of petiolar node and longitudinal median depression of postpetiole as in holotype and Wagina material.

2. Mesosomal profile with promesonotum slightly more convex and raised a little higher above the propodeal dorsum than in the Isabel/Wagina or Vella Lavella forms.

3. Propodeal declivity divided into upper and lower portions by a transverse carina, as in other morphs. The dorsal section, however, is convex, with its surface more or less continuous with the convexity of the propodeal dorsum. In the other morphs this section intrudes into the propodeal dorsum as a depressed triangular "valley". In this feature Guadalcanal *E. isabellae* specimens resemble *E. greensladei*.

4. Sculpturation less intense than in either previously described morph. Head essentially smooth, with faint traces of punctate-rugosity. Dorsum and sides of mesosoma, petiole and postpetiole with sculpturing somewhat reduced, but probably derived from a condition like that in the Vella Lavella form. Gastral sculpturing intermediate between Wagina and Vella Lavella specimens.

The Isabel/Wagina, Vella Lavella and Guadalcanal morphs thus appear approximately to represent steps in a cline running from north-west to south-east in the Solomons, with the Vella Lavella form more or less intermediate between the other two in most features.

It is possible that these forms, along with *E. greensladei*, represent separate, closely related species in a group derived from stock close to *E. procera*. Guadalcanal *E. isabellae* specimens are generally quite similar to *E. greensladei*, though the two have very different mandibular structure, and *E. greensladei* has heavier mesosomal sculpture, more like Vella Lavella specimens of *E. isabellae*.

Eurhopalothrix procera (Emery)

New records.—PAPUA NEW GUINEA: MANUS ISLAND: Lorengau, 27.ii.1973, PMR. SEPIK PROVINCE: Pes, near Aitape, berlesate, rain forest, ca 50 m, 8-9.vii.1972, RWT; Yawasora, near Wewak, berlesate, rain forest, < 50 m, 4-6.vii.1972, RWT. MOROBE PROVINCE: near Lae, berlesate, rain forest, ca 50 m, 11.vi.1972, RWT. CENTRAL PROVINCE: Kokoda, 6.iv.1972, PMR; near Kokoda, rain forest, ca 500 m, 1.vi.1972, RWT; 5 mi. S of Siahio, near Popondetta, nest in rotting log, rain forest, ca 400 ft, 16.i.1971, BBL; Popondetta-Kokoda Rd, near summit Oivi Ridge, in rotten stump, rain forest, ca 1300 ft, 16.i.1971, BBL; Popondetta, 20.ix.1972, PMR; 20 mi. N of Popondetta, Bisi Cocoa plantation, nest in rotting wood on ground, ca 400 ft, 15.i.1971, BBL; near Dobodura, on Samboga River, nest in large rotting log, rain forest, ca 100 ft, 14.i.1971, BBL. SOLOMON ISLANDS: RENDOVA: 6.v.1966, PJMG (acc. 22936) (ANIC). SANTA ISABEL: Tatamba, berlesates, *Casuarina* or mixed litter, 27, 28.ix.1965. PNL-Brit. Roy. Soc. Expedition [ANIC, BM(NH)]. MALAITA: Dala, flying male, 11.ii.1965, PJMG (acc. 16654). GUADALCANAL: Mt Austen, 5.x.1965, PJMG (acc. 19476); Mt Gallego, berlesate, moss forest, ca 3000 ft, 1966, PNL-Brit. Roy. Soc. Expedition. AUSTRALIA: QUEENSLAND: Iron Range, ex rotting wood on ground, rain forest, 20-25.vii.1978, RWT; Cooper Creek, 16°11'S, 145°26'E, ground stray, rain forest, < 20 m, 22.vi.1971, RWT and JEF; Thornton Range, 16°15'S, 145°26'E, ex rotting log, rain forest, ca 150-180 m, 23.vi.1971, RWT and JEF. (All ANIC.)

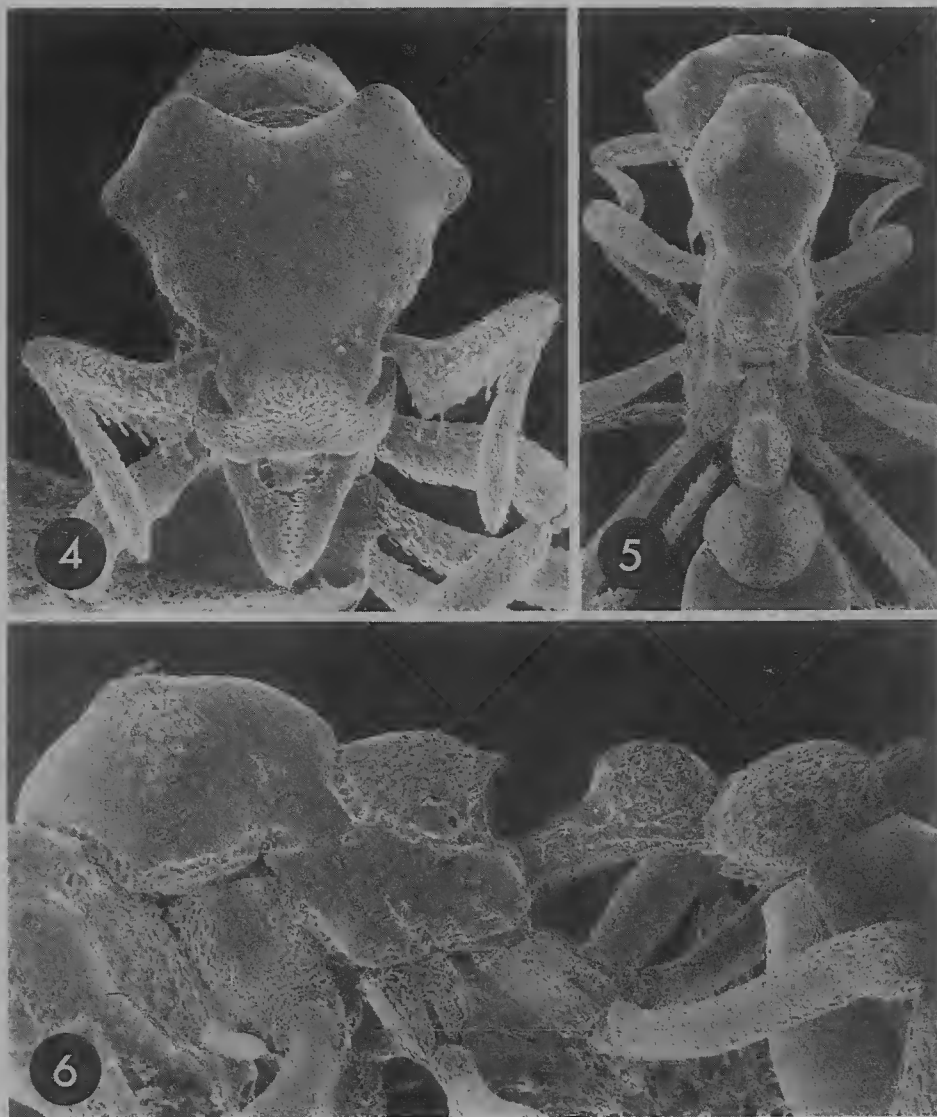
Known distribution, variation

Widespread in rain forest and marginal habitats; East Indies, Philippines, Melanesia, Polynesia east to the Samoan Islands, and Cape York Peninsula south to the Daintree River (ca 16°15'S). The Australian records are all from low elevations (< 200 m), but *E. procera* has been taken at 500 m in Papua New Guinea and at 900 m on Guadalcanal.

The material listed above confirms the general centrifugal pattern of geographical variation described by Brown and Kempf (1960, p. 228, fig. 56), except that Australian specimens have fewer erect hairs on first gastral tergite than expected. Two workers from Iron Range each have a single hair near the posterior border of the sclerite, while two others, and 18 from the Cooper Creek and Thornton Range series, completely lack such hairs.

Eurhopalothrix szentivanyi Taylor (Figs 4-6)

New records.—PAPUA NEW GUINEA: SEPIK PROVINCE: near Vanimo, ex rotting log, rain forest, ca 50 m, 10-11.vii.1972, RWT. MOROBE PROVINCE: Wau Gorge, worker foraging on log, midmorning, rain forest, ca 3000 ft, 7.i.1971, BBL. CENTRAL PROVINCE: Kokoda, nest in large log, edge of rain forest in dense rubber plantation, 1300 ft, 17.i.1971, BBL; 25.v.1972, PMR; near Kokoda, berlesate, rain forest, ca 500 m, 1.vi.1972, RWT; Kokoda Rd, 5 mi. S of Siahio, dense rain forest, ca 400 ft, 16.i.1971, BBL; Popondetta, 20.vii.1973, PMR. (All ANIC.)



FIGS 4-6—*Eurhopalothrix szentivanyi* Taylor, worker, 5 mi. S of Siaho, Papua New Guinea, standard views. HW 1.45 mm, PO 0.89 mm, WL 1.68 mm.

Known distribution, variation

Rain forest habitats; northern mainland Papua New Guinea, localities near Vanimo, Wau and Bulolo, Kokoda and Popondetta, elevations from near sea level to about 1200 m.

The Vanimo specimens closely resemble those from Morobe Province except that they almost totally lack propodeal spines. The declivitous face of the propodeum is framed laterally and dorsally by fine carinae, as in other specimens, but the lateral carinae are not dorsally spinose.

The Central Province specimens, one of which is the subject of Figs 4-6, could represent a distinct geographical race, or even a separate sibling species. They average slightly larger in size than other specimens, and are medium to dark castaneous, where other samples are dark reddish-brown, almost black. Workers almost completely lack dorsal mesonotal sculpturing, which is present as two lateral strips of dense large punctae in other forms. The scutum of females is less strongly punctate-rugose than in

the paratype female, and the pronotum forms a more distinct transverse dorsal ridge anterior to it.

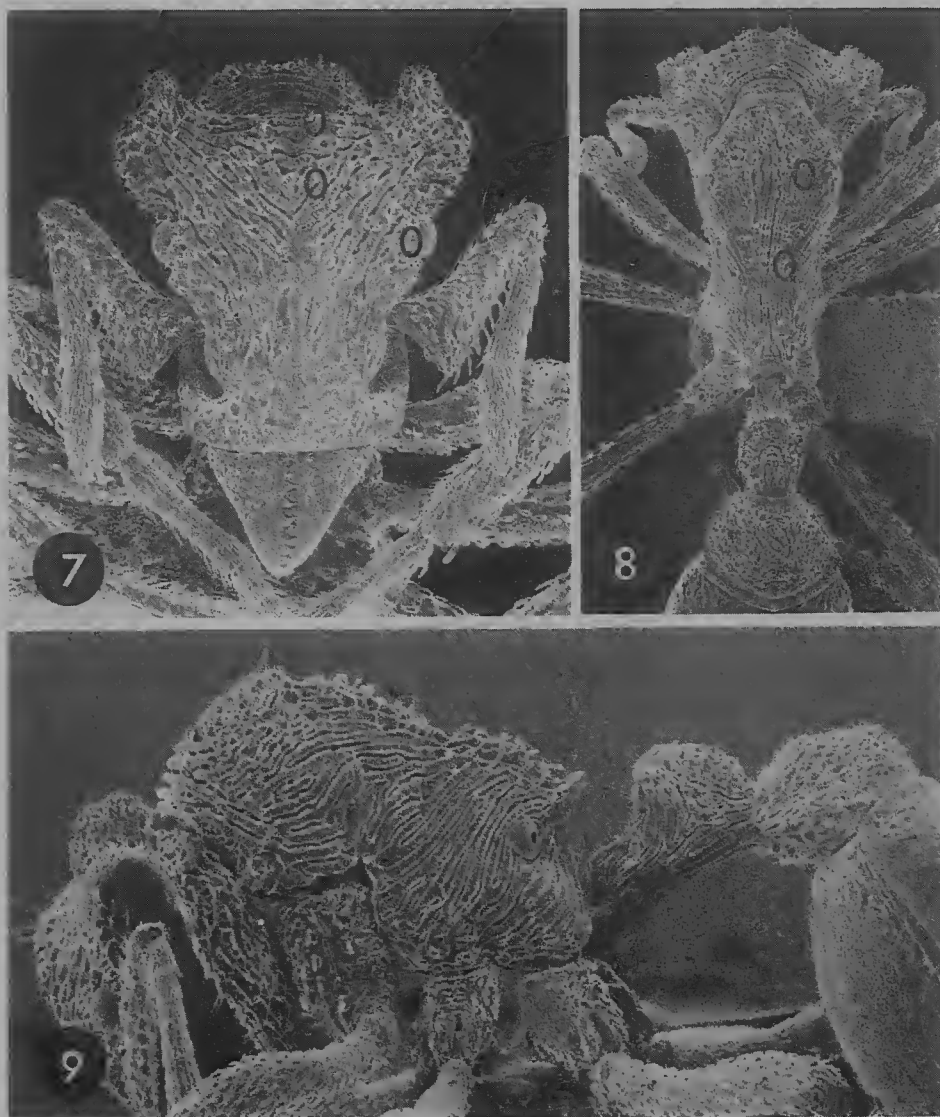
Eurhopalothrix emeryi (Forel) Figs 7-10)

Rhopalothrix emeryi Forel, 1912:58.

Rhopalothrix (*Rhopalothrix*) *elegans* Mann, 1921:467.

Eurhopalothrix emeryi: Brown and Kempf, 1960:230.

Material examined, distribution.—"AUSTRALIE" [without additional data, provenance probably incorrect—see Brown and Kempf (1960, p. 230)], *holotype* alate female (GM, kindly loaned by Dr C. Besuchet). FIJI: VITI LEVU: Nadarivatu, W. M. Mann, collected in 1915-16, six *syntype* workers of *R. (R.) elegans* (MCZ, kindly loaned by Dr A. Newton), 16 *syntype* workers and one *syntype* alate female of *R. (R.) elegans* (USNM, kindly loaned by Dr David R. Smith); Nandrau, several berlesates, wood and litter, ca 750 m and 800 m, 15 and 16.x.1977, GK (accs 77/116, 77/118), four workers (NZAC, ANIC); Navai, base of Mt Tomanivi, berlesate, rain forest, ca 1000 m, 22.vii.1978, S&JP, two workers (ANIC). Known only from Viti Levu, Fiji Islands.



Figs 7-9—*Eurhopalothrix emeryi* (Forel), worker, Navai, Viti Levu, Fiji, standard views. HW 1.25 mm, PW 0.80 mm, WL 1.56 mm. Positions of one specialised hair in each pair on head and promesonotum circled on Figs 7, 8.

Synonymy

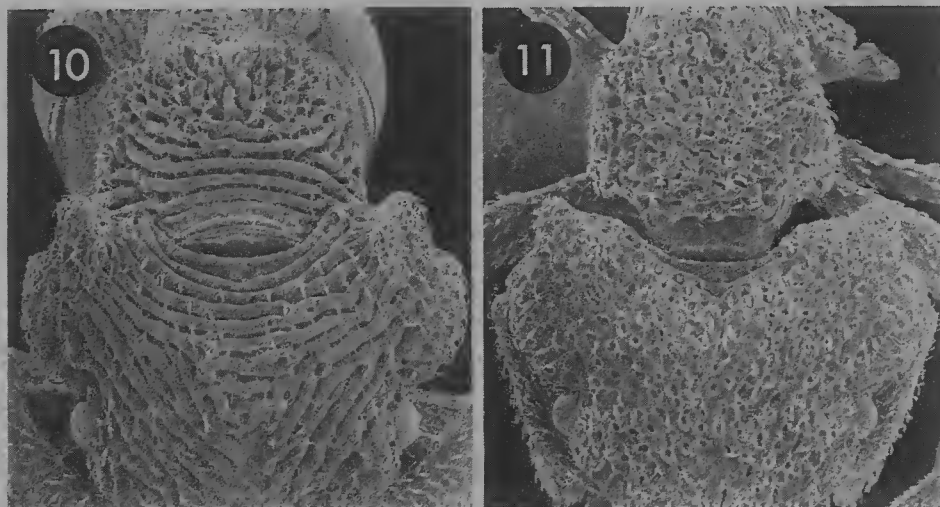
I have confirmed the synonymy of *elegans* with *emeryi*, as proposed by Brown and Kempf (1960). However, among the *elegans* syntypes I have seen, only those collected at Nadarivatu by Mann are involved in this synonymy. His *elegans* syntypes from Suene (on Vanua Levu), Waiyanitu (on Viti Levu) and Ovalau Island belong to a separate species described below as *Eurhopalothrix insidiatrix* sp. n. Mann did not designate a holotype of *elegans*, but he did clearly state Nadarivatu as the type-locality of this name. I have directly compared his Nadarivatu female and workers with the alate female holotype of *emeryi*, and have no doubt that the specimens are conspecific. In order firmly to establish the Nadarivatu specimens as the type-series of *elegans* one of them, from the MCZ collection, is here designated *lectotype* of that nominal species and the remainder *paralectotypes*. The specimens have been labelled accordingly. The subjective synonymy of *elegans* under *emeryi* follows routinely, and the "*elegans*" material from localities other than Nadarivatu is released for use as the type-series of *E. insidiatrix*.

The descriptions and keys of Mann (1921), Brown and Kempf (1960), and Taylor (1962) are sufficiently general to apply to either *E. emeryi* or *E. insidiatrix*, though the sculpturing described is usually that of *E. emeryi*, and the distribution of specialised hairs has never been properly described. Mann's fig. 25 probably depicts an *E. insidiatrix* worker. Additional descriptive data for *E. emeryi* follow, and diagnosis of the two species is discussed below under *E. insidiatrix*.

Worker

Dimensions [smallest (Nadarivatu) and largest (Mt Tomanivi) available specimens, selected by HW measurement].—TL ca 5.0, 5.5; HL 1.24, 1.35; HW 1.20, 1.27; CI 97, 94; ML 0.34, 0.37; MI 27, 27; SL 0.73, 0.77; SI 61, 61; maximum diameter of eye 0.12, 0.15; PW 0.73, 0.83; WL 1.44, 1.59; petiolar node width 0.33, 0.35; postpetiole width 0.65, 0.73; gastral width 0.95, 1.07.

Additional description.—General features as in Figs 7-10. Basal halves of mandibles coarsely and closely punctate. Clypeus, edges of antennal scrobes, and extreme lateral and apical portions of occipital lobes coarsely punctate-rugose. Frons otherwise bearing strong smooth costae, shining when clean; their reflections regularly interrupted by minute shallow pits marking hair bases. which do not significantly break costular surfaces. Intercostal grooves strong, almost as deep as wide, generally slightly wider than adjacent costae; frequently packed with greyish dirt or secreted material. The costae arranged in more or less parallel series, one set approximately longitudinal between the antennal scrobes, and others, behind the level of the antennal insertions, parallel to the diverging sides of the head and to the transverse occipital border. They thus form an approximately triangular figure around the centre of the frons, where there is a tendency to fusion and rugosity.



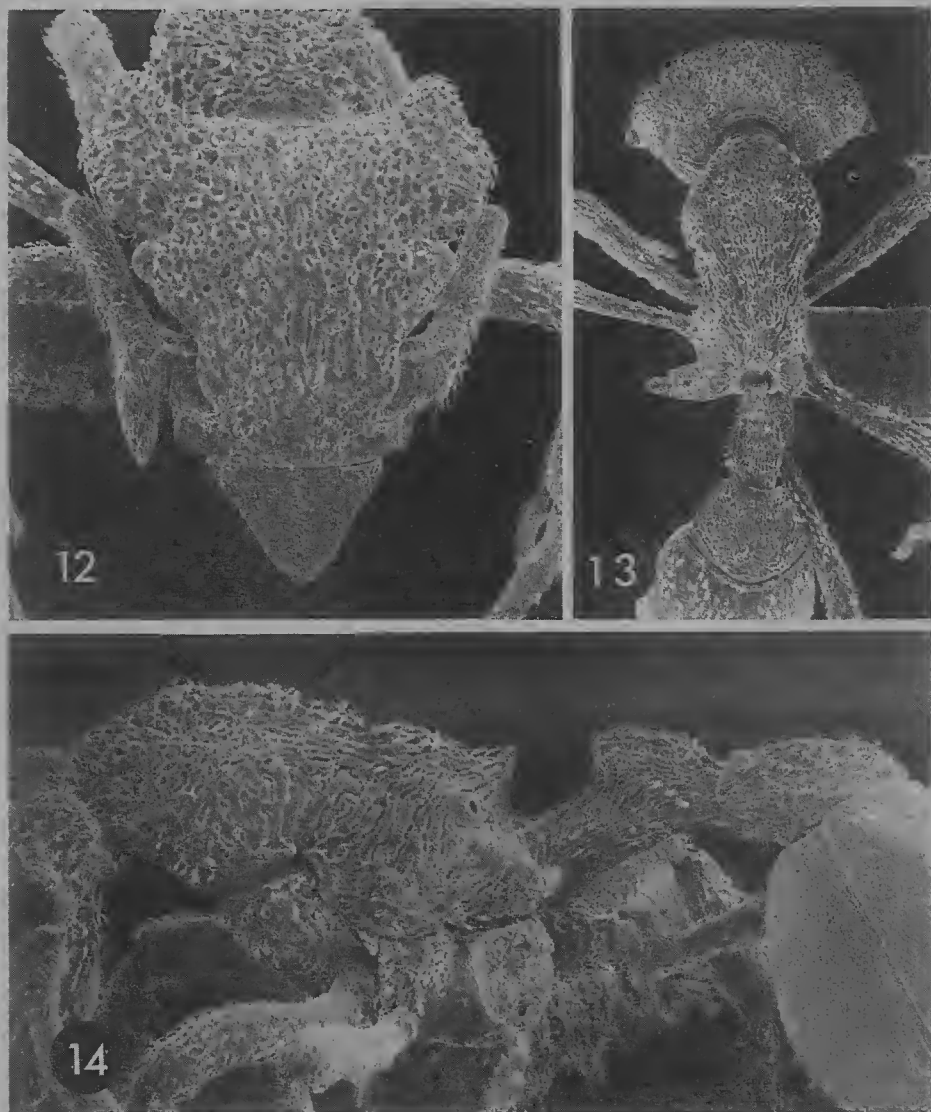
FIGS 10, 11—Fijian *Eurhopalothrix* species, workers, details of cephalic and pronotal sculpture: (10) *E. emeryi* (Forel), Navai; (11) *E. insidiatrix* sp.n., holotype.

Anterodorsal and dorsolateral areas of pronotum coarsely and deeply rugoreticulate, lower part of anterior face transversely costulate, like posterior part of head, the costae extending to the ventrolateral areas of the sclerite. Mesosomal dorsum otherwise longitudinally costulate; mes- and metepisterna and sides of propodeum with diagonal costae sloping forwards; declivitous face of propodeum finely shagreened. Other sculptural details as in accompanying Figs.

Specialised hairs additional to those of scapes and the three terminal gastral segments less strongly differentiated than in other species, two to three times longer than those of ground pilosity, barely thicker; three pairs on head and two on promesonotum, deployed as in Figs 7 and 8; all are visible in profile in these and Fig. 9, except those adjacent to eyes, which are visible in Fig. 10. First gastral tergite with about 10 erect specialised hairs arranged in two loose longitudinal rows.

Female

The *emeryi* holotype alate female is matched closely by Mann's *elegans* syntype female from Nadarivatu. Both these specimens resemble workers from the *E. elegans* type-series, and those from Nandrau and Navai, in those features which distinguish them from the *E. insidiatrix* worker types.



FIGS 12-14—*Eurhopalothrix insidiatrix* sp.n., holotype worker, standard views. HW 1.40 mm, PW 0.84 mm, WL 1.61 mm.

Specialised hairs differentiated from ground pilosity even less strongly than in workers; occupying similar positions on head and gaster. Mesosoma of holotype badly damaged by mounting pin, bearing at least one pair of erect hairs on pronotum and two on mesocutum. This configuration confirmed by the *elegans* syntype, which in addition has one pair of hairs on the mesoscutellum.

***Eurhopalothrix insidiatrix* sp. n. (Figs 11-14)**

Types.—FIJI: VANUA LEVU: Suene (TYPE-LOCALITY), holotype and 24 paratypes, all workers, W. M. Mann, collected in 1915-16 [MCZ (holotype, 10 paratypes), USNM (12 paratypes), ANIC (two paratypes)]; Ndelaikoro, litter, ca 800 m, 27.x.1977, GK (acc. 77/131), five paratype workers [NZAC (three), ANIC (two)]. VITI LEVU: Waiyanitu, three paratype workers, W. M. Mann, 1915-16 (USNM). OVALAU ISLAND: paratype dealate female, W. M. Mann, 1915-16 (USNM). All specimens except those from Ndelaikoro are also types of *Rhopalothrix* (*Rhopalothrix*) *elegans* Mann; see discussion above under *E. emeryi* (Forel) (= *elegans*).

Worker

Dimensions [holotype, smallest paratype (Suene), largest paratype (Ndelaikoro), selected by HW measurement].—TL ca 5.7, 5.5, 6.0; HL 1.42, 1.35, 1.49; HW 1.39, 1.36, 1.49; C1 99, 100, 100; ML 0.36, 0.35, 0.42; MI 25, 26, 28; SL 0.79, 0.78, 0.84; SI 57, 57, 56; maximum diameter of eye 0.14, 0.14, 0.17; PW 0.84, 0.82, 0.92; WL 1.62, 1.58, 1.80; petiolar node width 0.32, 0.32, 0.38; postpetiole width 0.72, 0.68, 0.80; gastral width 1.05, 1.02, 1.19.

Diagnosis.—General features as in Figs 11-14. Close to *E. emeryi* Forel, distinguished from it by the following features:

1. Larger size, with relatively broad head and long scapes.
2. Sculpturation of mandibles less coarse and more extensively developed. Clypeus and front of head almost completely coarsely rugoreticulate, linear elements restricted to a few short longitudinal costae near midline, immediately behind the clypeus.

Entire pronotum, mesonotal dorsum and basal face of propodeum generally sculptured like head, with traces of longitudinal costae near midline behind pronotum. Diagonal wavy costae somewhat similar to those of *E. emeryi* restricted on sides of mesosoma to metepisternum and propodeum. Traces of this sculpture weakly developed in the rugosity of the mesepisternum and extreme posterior parts of the sides of the pronotum. Sculpture otherwise as in Figs. The accompanying micrographs of *E. emeryi* and *E. insidiatrix* illustrate these differences very well, especially Figs 10, 11.

3. Erect specialised hairs barely differentiated at all from ground pilosity. The specimens are generally worn or encrusted with dirt or secreted material. However all hairs present in *E. emeryi*, except those adjacent to the eyes, seem to be represented somewhere in the series.

First gastral tergite lacks erect hairs in all intact specimens. The Ndelaikoro and Waiyanitu specimens have the mandibular sculpture slightly more coarse than in the Suene material. The Waiyanitu specimens each have two transverse straight rugae crossing the posterior median section of the occipital emargination. Otherwise little variation is indicated among the specimens.

Some specimens in Mann's series of both *E. emeryi* and *E. insidiatrix* have lost the postpetiole and gaster. These have been reglued to the mounting points in several cases, and at least one *E. emeryi* gaster has been incorrectly associated with a broken *E. insidiatrix* specimen. This or its complement might also have occurred with specimens not seen by me.

Female

The Ovalau female differs from those of *E. emeryi* exactly as would be expected considering the worker differences listed above; notably the sculptural features.

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